Consumer Streaming Market

Recently, the media delivery market to consumers has seen a pretty aggressive shakeup. On July 15th, Netflix noted it beat it's own estimates for subscribership, that same week, Showtime announced a partnership with Hulu[1] to create an add-on service to compete with HBO Go[2], which in itself had become an unqualified success due to in-demand content, and both cable systems and new collaborations such as Sling[3], have begun to conform to the a-la-carte and on-demand nature of consumer media consumption. Even Apple is working through the last stages contracts to provide live streaming from the national networks through their AppleTV set-top box, supposedly a non-technical issue, but rather legacy issues from how national networks and affiliates manage their relationships. It is not a matter of "if "in many cases, but of "when".

What's driving this rapid change? Some could point to cost, with bundles being offered to consumers that offer internet service, video, and telephone service that don't reflect the consumption methods or use being far above what consumers could piece together individually. In many cases, cell phones have replaced landlines in homes, and over-the-top (OTT)[4][5], inclusion of a service that few actually use, often indicates a gap in comprehension of consumers by service providers. Again, the consumption methods for media can also be seen as a driver for these changes, as consumer schedules are much more hectic and changeable. With the advancement of technology, the concept of demand-based consumption, borne out of video rentals, TiVos and digital video recorders (DVR), MP3 players, and mothered by instant access from the rise of the internet and the "smartening" of everything from phones[6] to television[7], it was natural for consumers to want to place- and time-shift their habits[8].

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[1] http://www.latimes.com/entertainment/envelope/cotown/la-et-ct-showtime-s-stand-alone-streaming-service-launches-on-apple-hulu-and-more-20150707-story.html
[2] http://www.theverge.com/2015/4/7/8363811/hbo-now-apple-tv-hands-on
[3] http://www.cnet.com/news/sling-tv-everything-you-need-to-know/
[4] https://en.wikipedia.org/wiki/Over-the-top_content
[5] https://www.fcc.gov/document/fcc-adopts-15th-report-video-competition-0
[6] http://www.emarketer.com/Article/Mobile-Continues-Steal-Share-of-US-Adults-Daily-Time-Spent-with-Media/1010782
[7] http://www.theguardian.com/technology/2012/jan/13/ces-2012-smart-tv
[8] http://www.mediapost.com/publications/article/160846/nielsen-time-and-place-shifting-accelerate-digi.html?edition=

So what does that mean for the content creators and delivery services? In some cases, either change your business model, or risk death[9]. The video rental market (which included tapes and discs) died quickly with the rise of Netflix and pirating. Netflix itself wasn't streaming at first, but attacked the model by offering an easier way to address acquiring and returning DVDs as well as a way to address consumers desires to explore, famously captured in a contest by Netflix to enhance their recommendation engine[10]. To fill that transitional gap, services such as RedBox[11], which addressed the "drive to" issue of moving discs back to their origin, placed the casual rental experience in more readily trafficked areas such as grocery stores and other retail locations, at the cost of reduced selection but offering new releases in quantity and immediacy in return. Upon the development of licensing deals for streaming, Netflix revolutionized the concept of on-demand, instantaneous media consumption, in long and short form. Apple, known mostly for it's hardware prowess and recovery from near death and loss to history in the 1990s, came back strong through the development of the iTunes platform, which offered ala-carte access to music, TV shows and music, destined to be optimized for playback on their hardware (iPods, iPads, iPhones and AppleTV). Thus, the bandwagon was loaded up for bearing down on those staid delivery platforms and services that needed to adjust quickly to the new realities of a market that tended to change day-to-day.

However, this change and need to adapt isn't exactly everybody's cup of tea. During the first Internet boom, where infrastructure seemed to expand at breakneck speed, and what could be accomplished (or at least promised) seemed limitless, the idea of everything, all the time, to anywhere, on anything was still met with twisted faces of how to comprehend going from idea to reality. Then came YouTube. Not only was it lauded for user-created content, but it began to provide "media memory" with on-demand music videos, oft-forgotten and presumed lost video segments from TV shows and educational videos, and much of what exists on social media sites, short clips from movies and TV shows to allow for a multi-media zinger or meme to be replayed in full hi-resolution quality on any platform, anywhere. This "anywhere, anytime, on anything" is actually the problem that's needing to be addressed, and nobody has developed the silver bullet to make this experience for consumers pleasant, budget conscious, and efficient.

To address the first challenge is to look at platforms, the "anything" in this discussion. While some parts of the planet, the global economy and social and cultural uptake of new technology is a direct correlation to its ability to be acquired. With costs, unsubsidized, of consumer devices ranging from $30 for a low-end tablet to nearly $1000 for a "decked out" iPad, the value per performance (or appearance thereof) varies greatly. Dimensionally, looking at smartphones, computers and other

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[9] http://www.washingtonpost.com/business/capitalbusiness/after-33-years-washingtons-last-video-store-closes-its-doors/2014/04/25/49e82536-c1ad-11e3-b574-f8748871856a_story.html
[10] https://en.wikipedia.org/wiki/Netflix_Prize
[11] https://en.wikipedia.org/wiki/Redbox

media players, you can experience a similar spread of options, but for the sake of cost and performance. While $30 may seem like a bargain for a typical US-centric shopper, $30 in a developing country is quite the financial outlay. Add to the cost of connectivity, then the costs of initial acquisition start to spiral out of reasonable obtainability. For content developers, it's often the push for the media to be the highest resolution and quality, and in turn only be destined to be played back on the newest and greatest (or one previous version) hardware in the marketplace, for the exclusion of all other potential screens and devices that are actually in use. It would do well for these content developers consider their delivery targets and develop a strategy to best serve their market's technology ecosystem, even possibly at the cost of some time or resources, if it is cognizant of costs.

The second major obstacle, definitely, is the issue of "anywhere", which indicates how the media reaches the consumer from the creator, essentially "the network". Even here in the US, addressing this issue is problematic, varying from geography to social and economic issues, with lack or reduced access existing from locations as diverse as the inner city to the mountains of Montana. Again, like the platform, these challenges grow when analyzed in a global context, with a little over 2.4bn of our 7bn planet's population having access to the Internet and the potential opportunities for communication, education and entertainment it may bring. In some parts of the world, that infrastructure is served by only costly wireless service, and the costs of operations are passed on to consumers as high-cost (in relation to income) subscriptions. There also exists, a disparity in the quality of network access, even in the most densely populated areas, getting adequate bandwidth to everybody who wants it is difficult or impossible[12]. Add to this, the infrastructure state of the home country, and the variance of sustainable high-speed network access is quite high and often unpredictable[13].

Most of the recent market focus, as introduced earlier, has been on the "anytime", the ability to time-shift viewing to an on-demand model. Initially this could be traced back to pay-per-view (PPV) services that have existed since the 1950s[14], but with the invention of the VCR and then the digital video recorder (DVR), the shift of viewing habits truly took off. After TiVo reached a significant market penetration that moved people from tapes to hard drives with their DVR, the next step in the evolution of digital media came through following the now infamous model of digital music with the use of MPEG-3 (MP3) files, digital downloads. These downloads were tempered, unlike MP3, with the availability of streaming service due to the file size of high quality video as such that downloading a 2-4MB audio file is much different than downloading a 1-2GB high quality video file. However those distribution systems, through Apple and others, have now migrated to a mixed storefront, offering both permanent ownership and download of a portable file or temporary

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[12] http://www.broadbandmap.gov

[13] http://www.streamingmedia.com/Articles/Editorial/Featured-Articles/Streaming-Round-the-Globe-65010.aspx

[14] https://en.wikipedia.org/wiki/Pay-per-view

rental, either through expiring download or stream. The issues regarding the consideration for destination platforms, whether on a high-definition 4K TV or on a small screened smartphone, still plague content developers and distributors as to how to adapt to the technology and place resources towards content targets.

So, what is next on the horizon to consider making these challenges something less of something to do battle with and make everything easy, inexpensive and seamless to consume. Both Facebook and Google have addressed getting more universal access to communities and peoples in two distinctly different fashions. Google's attempt, as documented in our earlier roundup from the Google I/O conference, involved modified weather balloons called Project Loon[15]. This centered on addressing gap in coverage, looking more at universal access to the Internet, without concerns targeted at speed and bandwidth. Facebook, through Internet.Org[16] is primarily attacking the access problem through subsidy of already established networks as well as research into end user platforms and other access delivery mechanisms. For both Facebook and Google, finding the "way" to do this is more important than creating a competitive market[17], thus defining that the content is the key and that the method of access can be viewed much in the vein of a utility that's there and ubiquitous. The looming question is "how viable will this approach be in the short and long term?"[18], which has yet to be adequately addressed. There are a lot of technical and logistical hurdles to overcome by using less than traditional infrastructure techniques that do not have a history of data from common use[19]. Most of these are expansions upon theoretical or lab ideas (many adapted from military technologies, programs, and other sectors of aerospace), but most of what individuals know and can maintain, still are based in land-based technology, through either wires, line-of-sight, or other radio-based transmissions.

Or course, when you step back and look at who is providing this service, essentially two giants in content consolidation and services, you can also start to question motivations. This question ties greatly to the current state of Internet access, content provision, and infrastructure management that has been on the forefront of legal and political discussions in the United States (US) for a number of years, that of "net neutrality". Unlike in much of the of the US infrastructure, owned and managed by "utilities", other parts of the globe have a patchwork and less structured method to delivering what we consider essential services. While it provides opportunities to leverage modern techniques without much legacy restrictions, it can also be abused and create situations worse than those they purport to solve. The current structure in most industrialized nations that have a significant penetration of Internet access

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[15] http://www.google.com/loon/
[16] https://internet.org/projects
[17] http://www.quora.com/Why-arent-Google-Project-Loon-and-Internet-org-competing
[18] http://www.wired.com/2014/11/internet-access-drones/
[19] http://www.theverge.com/2015/3/2/8129543/google-x-internet-balloon-project-loon-interview

maintain a balance of cost, access, and utility that keeps most content available and delivered with the minimal amount of restrictions or technical hurdles. Shuttling traffic through a limited point or through sponsored applications, such as those through Internet.Org's framework, places a tax on the end user to pay on potential access and use of information. Similarly, if TWDC wished to reach those users over a sponsored network, they would have to negotiate or partner with them to ensure their content could be delivered over that service.

Beyond the penetration issue for new or challenging markets, there still remains a market challenge to adapt to the on-demand marketplace. Cable subscriptions were "cash-cows" and could reliably be booked on for long term financial returns due to the consumer's inertia to alter, what to their eyes, was a utility, much like power, water and telephone services. As noted earlier, viewing habits have changed, and those other services, such as power and telephone, have changed due to regulation, technology and markets, it makes sense that those same demands would change for media delivery as well[20]. Many streaming services began by providing access to older shows, and then recently aired episodes, as well as full-length movies and similar content[21]. This grew to offering "all the season, all at once" model that Netflix and then Amazon pioneered, kicking off the term of "binge watching", but also providing valuable feedback to the content developers and providers on consumer interests and differing viewing habits[22]. Combining the time- and place-shifting of content viewing, consumption volumes, and the desire to pick and choose from an al-a-carte menu of content, this has resulted in those content producers deciding to partner with new providers or go directly to the consumer. This potentially has benefits to the consumer of better pricing as well as the content producer by eliminating or reducing the costs of middle-tier distribution arrangements in some cases.

Two new services have, or are planned to launch soon, the first, Sling, is an al-a-carte live TV service that can be viewed on a number of platforms, the second is a planned upgrade to AppleTV that includes live streaming of local network affiliates. Surprisingly, this is a capability that didn't arise through a technological innovation, but went to addressing licensing and royalty issues. Sling offers a number of Disney produced channels and others that are commonly seen as part of a typical basic cable package from any provider such as Comcast, Time Warner, Charter and similar. These plans are or are expected to range from $20 to $40[23] with a typical

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[20] http://www.brookings.edu/events/2014/05/02-video-streaming-and-digital-content-delivery

[21] http://www.theguardian.com/media-network/media-network-blog/2013/mar/01/history-streaming-future-connected-tv

[22] http://www.adweek.com/news/technology/very-brief-history-web-video-148949

[23] http://appleinsider.com/articles/15/03/18/apples-subscription-tv-service-predicted-to-cost-below-40-to-compete-with-cable-providers

basic cable packages coming in over $60 on average according to the FCC[24]. Each, however usually require a basic network access subscription, which can range from $20 to over $100 depending on speed and availability of some services, which can be a major influencer into a consumers decision to add on an additional "lump" package from the Internet provider, who is often the same that provides the cable TV package, or go it piecemeal with services such as Hulu, Netflix, Amazon and others.

However, when consumers begin to balance these options, some turn to technologies and services already out there that are free, but often illegal. Much like Napster posed a threat to the traditional distribution and revenue model for the music industry, the rise and now simplicity and decentralization of BitTorrent makes it easier for that user wishing to pirate media[25]. This leaves content developers and provider in an interesting predicament; either adjust their prices and/or begin to offer a value add that pirated content can't and doesn't offer to consumers. In one clever move, embracing a potential new distribution model, the BBC offered a BitTorrent package of Doctor Who shows[26][27], which followed a series of content producers leveraging[28] this oft misunderstood system by addressing basic access concerns. As well, using a decentralized content access model too could address concerns noted earlier about the availability of architected networks for Internet access by encouraging peer-to-peer technology, that already builds in controls for addressing bandwidth, access and content source location. This, again, provides another tool for content producers to reach consumers directly, by using a ubiquitous technology, and not have to be directly concerned with network transmission and latency, distribution middlemen, and possibly even, what's considered one of the most expensive parts of content dispersal[29], marketing[30].

Again, moving beyond access and availability, beyond distribution, but still looking into how consumers are demanding their media and creators still desiring control, piracy and technological techniques that are often used to address this are often at odds. Most media content developed by providers are wrapped in some form of

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[24] https://www.fcc.gov/document/report-average-rates-cable-programming-service-and-equipment-1
[25] https://www.techdirt.com/articles/20150325/06220130424/when-analyzing-cord-cutting-options-most-tv-analysts-continue-to-pretend-piracy-simply-doesnt-exist.shtml
[26] http://www.theguardian.com/technology/2015/apr/02/sharing-doctor-who-bittorrent-bbc
[27] https://bundles.bittorrent.com/bundles/doctor-who
[28] https://bundles.bittorrent.com
[29] http://www.strategyand.pwc.com/global/home/what we do/industries/media en tertainment/me key trends
[30] http://www.webpagefx.com/blog/business-advice/the-cost-of-advertising-nationally-broken-down-by-medium/

digital rights management (DRM) technologies[31], which due to the complexity of implementation, management and portability, often are not user friendly. This leaves users, in order to access distributed media, with error screens, chains of tech support emails or forum posts, and eventual abandonment if the bar to simply view the media is placed too high. In turn, requiring consumers to install a special player, plugin, or manage access key codes, hardware tokens, or other entitlements tends to lower the positive sentiment from the consumer about the media and the provider of it[32]. With the push of content providers to streaming or renting of content, previous expectations of "personal use" and "ownership" have been disrupted[33], and at times, have seen a backlash during the shutdown of such media services and technologies that consumers had a vested financial interest in, only to be locked out of media they had paid for[34]. Such ire drawn on the closing of media storefronts such as Microsoft's Zune and others that pushed others to either remove or limit the use of DRM on their services, reflected in Apple's willingness to allow backup to other media of downloaded material from iTunes, and Amazon selling DRM-free MP3 music (and often giving away free digital versions with a purchase of a physical CD).

As it starts to come to the basics of delivering content from producers to consumers, recent moves within the market for the "pipes" that it's sent over in the US has been in flux due to acquisitions and mergers. Unlike the European Union (EU) members, the US main controls against large-scale mergers and consolidations rest in the hands of regulators looking at anti-trust considerations, a legacy from early 20th Century issues regarding market domination and price manipulation by a few producers, transport and distribution systems within the US. Most recently, merger plans between telecommunications companies have been scrapped or fallen apart due to the threat of non-approval and subsequent loss of value from having to divest important parts of the companies merging that run counter to the motivations of the consolidation in the first place. This was never more evident in the months long attempt by Comcast, the largest cable provider in the US, attempted takeover of Time Warner Cable (TWC) was scrapped due to negative forecasts in the regulatory review process[35]. The other suitor at the time, Charter Communications, placed a fourth offer to purchase TWC and Bright House Networks after Comcast abandoned their bid for the former property in late April 2015 and may close by the end of the year due to the smaller size and overall market share of all companies involved.

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[31] http://www.movielabs.com/ngvideo/MovieLabs%20Specification%20for%20Enhanced%20Content%20Protection%20v1.0.pdf

[32] http://www.researchgate.net/publication/3227866 Digital rights management

[33] https://www.law.berkeley.edu/files/DRM personal use.pdf

[34] https://wiki.openrightsgroup.org/wiki/Consumer confidence in digital environment

[35] http://www.ibtimes.com/dish-network-expect-more-carriage-disputes-if-comcast-twc-merger-approved-fcc-1766076

Possibly one of the more interesting outcomes from the adjustments of mergers such as this are due to broadcast licenses for certain events and media become less restrictive or are folded in to these operations[36]. In particular, the merger of Charter with TWC has positive fallout for consumers of sports within certain markets that currently were subject to blackouts due to deals between teams and cable systems. Within the Los Angeles metropolitan area, for example, SportsNetLA[37] maintained the contract for Major League Baseball's Los Angeles Dodgers, and for many years, was only available on TWC subscribers[38]. Even with Charter's large presence in the metro region, a merger would open viewership significantly, a win for consumers and fans, more potential revenue for the Dodgers organization, and more potential income to Charter as those current customer will potentially opt to pay for access to the channel out of their existing base[39]. However, this could further exacerbate monopoly concerns, as the area has multiple providers, but Charter gains dominance, affects choice, and in turn increases prices for certain packages as the gatekeeper for in-demand services[40].

Besides the blackout issues, for non-sports event content providers, carriage disputes have become more frequent and more public, often involving public relations campaigns by the content providers to solicit feedback directly to the cable systems to work through carriage disputes[41]. Some of the more (in)famous disputes[42] were a nine-year battle between TWC and the National Football League (NFL) regarding the NFL Channel that ended in 2012, a highly publicized package pricing dispute in 2012 between DirecTV and Viacom affecting of upwards 15 basic cable channels, and a nasty 2009 between TWC and Fox that had News Corporation (Fox's parent company) using press materials to suggest customers move to alternative providers such as satellite and Verizon FiOS which carried Fox content. In the case of these cable mergers, content providers may get subject to restrictions on the over the-top (OTT) distribution networks such as Netflix, Hulu and Amazon to penalize those who don't select a cable provider's package[43]. Although not openly admitting it, some cable companies have throttled content from these providers, which bolstered demands from providers and consumers that proposed net

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[36] http://www.forbes.com/sites/dorothypomerantz/2015/05/26/the-charter-time-warner-cable-merger-isnt-a-slam-dunk/
[37] https://en.wikipedia.org/wiki/Time Warner Cable SportsNet LA
[38] http://www.latimes.com/entertainment/envelope/cotown/la-et-ct-charter-deal-buy-time-warner-cable-20150525-story.html
[39] http://www.scpr.org/news/2015/05/26/51961/charter-buying-time-warner-cable-for-55-3b/
[40] http://www.fiercecable.com/story/dish-network-loses-134k-subs-q1-blames-carriage-disputes/2015-05-11
[41] https://en.wikipedia.org/wiki/Carriage dispute
[42] http://consumerist.com/tag/carriage-disputes/
[43] https://gigaom.com/2014/02/06/theres-something-rotten-in-the-state-of-online-video-streaming-and-the-data-is-starting-to-emerge/

neutrality rules and regulations be enacted and enforced[44]. Some of these disputes and mergers have driven some customers away from certain providers and more could occur as content developers look to go directly to consumers and rely less on traditionally delivered packages. In an interesting twist on carriage disputes and over-the-air (OTA) content being transmitted over an OTT service, Aereo, Inc. was sued out of existed by broadcasters by attempting to provide a service of taking local channels, captured by antennas, and offering them as streams on-line. The reason for the failure of Aereo was due to a adverse ruling by the Supreme Court of the United States (SCOTUS), citing violation of the Copyright Act of 1976 requiring permission of the copyright holder before "public performance"[45] or broadcast, a ruling similar to those that streaming radio channels are subject to during their rise to prominence several years ago[46]. Issues similar to this are what has delayed Apple and other companies from delivering live streams of network and localized broadcast through AppleTV devices, classifying Apple and Aereo's competitor, FilmOn[47], as a multichannel video programming distributor (MVPD)[48] by the FCC, placing it in a class, and under regulation, similar to traditional cable television providers.

Given technology, infrastructure, economics, markets, legal and regulatory issues, the area of consumer digital and streaming media is at a major conjunction point. It's not going to be an easy road forward due to all of the issues involved those that need to be addressed and it will require active participation from every component involved to make it a success. Often the technology will find a way to sort its problems out, however due to the fact that most remaining issues center on methods, policy and processes none of which are known to be addressed expediently those parties will most likely find ways to skirt those roadblocks in order to move things along and keep income rolling in from consumers. Consumers, in turn will demand higher quality levels of service, media and novel offerings to be accessible on all manners of technology, anywhere and on their schedule. [redacted]

[44] https://www.whitehouse.gov/net-neutrality
[45] http://www.supremecourt.gov/opinions/13pdf/13-461 l537.pdf
[46] http://www.copyright.gov/docs/regstat61500.html
[47] https://en.wikipedia.org/wiki/FilmOn
[48] https://www.federalregister.gov/articles/2015/01/15/2014-30777/promoting-innovation-and-competition-in-the-provision-of-multichannel-video-programming-distribution